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EXAMINER	
BAUER, SCOTT ALLEN	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,402	ROSTRON ET AL.	
	Examiner	Art Unit	
	Scott Bauer	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/15/03, 8/27/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Foreign Patents FR-8120122 & DE-1902211 were not considered during the examination, as English abstracts were not provided.

Drawings

2. Figures 13 & 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4-6, 8-11, 26-28 & 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Thuries et al. (US 4,421,962).

FIG.1

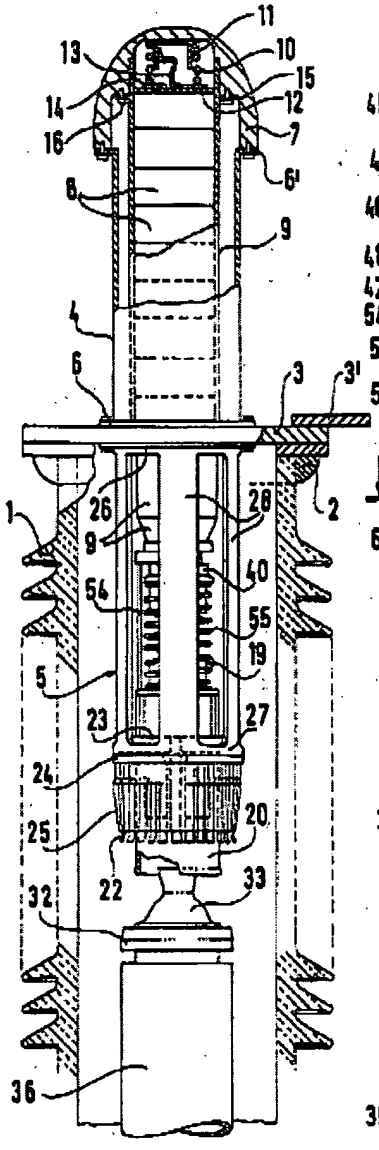
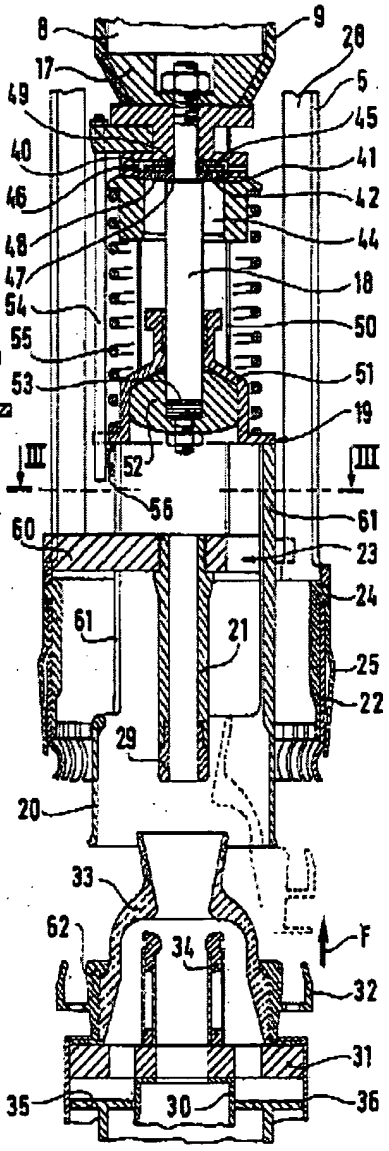


FIG.2



5. With regard to Claim 1, Thuries et al., in Figures 1 & 2, discloses an electric power switch, comprising: an impedance (8); a power contactor comprising a linearly moving contactor having a fixed contact (21) and a moving contact (34), and operable for closing an electric power circuit on a closing stroke and opening the electric circuit on an opening stroke; an impedance contactor operable for entering the impedance into the circuit on the closing stroke (column 4 lines 30-35) and removing the impedance from the circuit on the opening stroke (column 5 lines 12-29); the impedance contactor comprising a linear moving butt contactor (51) having a retracting contact (20) positioned adjacent to the fixed contact (21) of the power contactor and a traveling contact (62) that moves with the moving contact of the power contactor (34); a timing device (40) operable for causing the impedance contactor to close before the power contactor on the closing stroke, and to cause the impedance contactor to open before the power contactor on the opening stroke, and a container (1) filled with dielectric gas, (column 2 lines 45-48) housing the power contactor and the impedance contactor (column 1 lines 45-65).

6. With regard to Claim 2, Thuries et al., in Figures 1 & 2, discloses the electric power switch of Claim 1, and further discloses that the container (1) comprises an insulator (column 2 lines 45-48) extending between first (3') and second (30) ends a sufficient distance to prevent arcing from occurring between a first electric power terminal located at the first end and a second electric power terminal located at the second end when a rated voltage for the switch is applied across the power terminals.

7. With regard to Claim 4, Thuries et al., in Figure 1, discloses the electric power switch of Claim 2, wherein the impedance (8) is housed within a conductive cap (7) (column 2 lines 60 & 61). The conductive cap comprising the first electric power terminal located at the first end of the insulator (1). In paragraph 0047, the applicant discloses that the insulator (8) also includes an upper insulator section (8) that extends from the line terminal (30) to a capacitor terminal (3'), which is electrically connected to the conductive end cap (through flange 6).

8. With regard to Claim 5, Thuries et al., in Figure 2, discloses the electric power switch of Claim 2, wherein the charging impedance (8) is electrically connected to the contactors (20 & 21) within the insulator (1) with internal posts (54) (column 4 lines 43-50).

9. With regard to Claim 6, Thuries et al. discloses the electric power switch of Claim 5, further comprising a capacitor introduced into the electric power circuit during the closing stroke and disconnected from the electric power circuit during the opening stroke. Column 1 lines 10-15, disclose that the switch is to be used for closing and re-closing a long high tension line which had remained charged by interrupting the capacitive current. The closing of the switch would introduce the capacitance into the electrical power circuit and the opening of the switch would disconnect the capacitance from the power circuit.

10. With regard to Claim 8, Thuries et al., in Figures 1 & 2, discloses the electric power switch of Claim 1, wherein: the retracting contact (20) of the impedance contactor comprises a conductive ring positioned around the fixed contact (21) of the power contactor; and the traveling contact (62) of the impedance contactor comprises a conductive ring positioned around the moving contact of the power contactor (34).

11. With regard to Claim 9, Thuries et al., discloses the electric power switch of Claim 8, wherein the timing device (40) controls the movement of the retracting contact (20) during the opening stroke (column 5 lines 12-23).

12. With regard to Claim 10, Thuries et al., discloses the electric power switch of Claim 9, wherein the timing device comprises a puffer mechanism, as described by the applicant in paragraph 0019 as, *"a chamber integral with the retracting contact and a restrictive orifice venting the chamber,"* that resists movement of the retracting contact between the retracted position and the extended position through pneumatic compression on the opening stroke (column 5 lines 12-23).

13. With regard to Claim 11, Thuries et al., discloses the electric power switch of Claim 10, wherein the puffer mechanism (40) comprises a chamber (44) integral with the retracting contact (20) and a restrictive orifice (42 & 46) venting the chamber. (column 5, lines 12-23).

14. With regard to Claim 26, Thuries et al. discloses an electric power switch, comprising: a container (1) filled with dielectric gas comprising an insulator extending between first and second ends a sufficient distance to prevent arcing from occurring between a first electric power terminal located at the first end and a second electric power terminal located at the second end when a rated voltage for the switch is applied across the power terminals; an impedance (8) housed within a conductive cap (7) comprising the first (3') electric power terminal located at the first end of the insulator; a power contactor comprising a linearly moving penetrating contactor (21 & 34) housed within the insulator (1), having a fixed contact (21) and a moving contact (34), and operable for closing an electric power circuit on a closing stroke and opening the electric circuit on an opening stroke; an impedance contactor (20 & 62) housed within the insulator (1) and operable for entering the impedance into the circuit on the closing stroke and removing the impedance from the circuit on the opening stroke; the impedance contactor comprising a linear moving butt contactor having a retracting contact (20) positioned adjacent to the fixed contact (21) of the power contactor and a traveling contact (62) that moves with the moving contact (34) of the power contactor; and a timing device (40) operable for causing the impedance contactor to close before the power contactor on the closing stroke, and to cause the impedance contactor to open before the power contactor on the opening stroke.

15. With regard to Claim 27, Thuries et al., in Figures 1 & 2, discloses the electric power switch of claim 26, wherein: the retracting contact (20) of the impedance contactor comprises a conductive ring (20) positioned around the fixed contact (21) of the power contactor; and the traveling contact (62) of the impedance contactor comprises a conductive ring (62) positioned around the moving contact (34) of the power contactor.

16. With regard to Claim 28, Thuries et al. discloses the electric power switch of claim 26, wherein the timing device comprises a puffer mechanism, as described by the applicant in paragraph 0019 as, *"a chamber integral with the retracting contact and a restrictive orifice venting the chamber,"* that resists movement of the retracting contact between the retracted position and the extended position through pneumatic compression on the opening stroke column 5 lines 12-23).

17. With regard to Claim 30, Thuries et al. discloses the electric power switch of claim 26, further comprising a capacitor introduced into the electric power circuit during the closing stroke and disconnected from the electric power circuit during the opening stroke. Column 1 lines 10-15, disclose that the switch is to be used for closing and re-closing a long high tension line which had remained charged by interrupting the capacitive current.

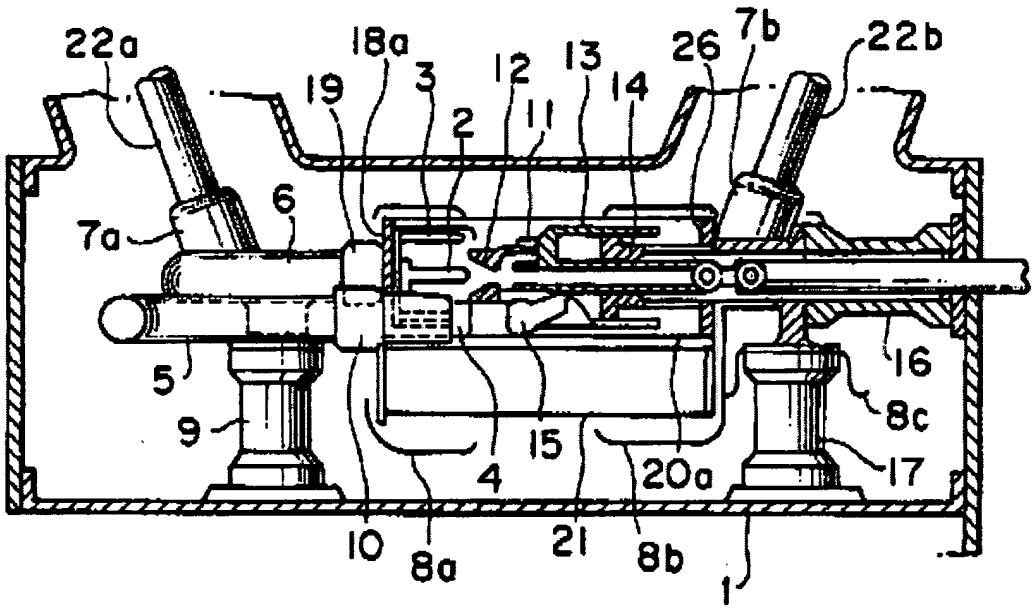
Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thuries et al. (US 4421962), in view of Hokuto et al. (US 5,734,140).

FIG. 1



20. With regard to Claim 3, Thuries et al. teaches the electric power switch of Claim 1.

Thuries et al. does not teach that the container of Claim 1 comprises a ground conductive tank.

Hokuto et al., in Figure 1, teaches a gas insulated high voltage circuit breaker including a tulip contact assembly and insertion resistor wherein the circuit breaker is disposed in a tank (1) having a grounded potential and filled with a insulating gas (column3 lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Thuries et al. with Hokuto et al., by surrounding the entire structure of Figure 1 taught by Thuries et al. with the grounded tank taught by Hokuto et al. to replace the insulating casing (1), for the purpose of providing a protective casing for the switch that is less susceptible of damage during transportation of the device.

21. Claims 7, 14-18, 20-24 & 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thuries et al. (US 4,421,962), in view of Baranowski et al. (US 6538347).

22. With regard to Claim 7, Thuries et al. teaches the electric power switch of Claim 6.

Thuries et al. does not teach that the switch further comprises an accelerator driving the power contactor and the impedance contactor at sufficient speed to avoid a re-strike during the opening stroke when the capacitor is removed from the electric circuit.

Baranowski et al., in figures 19 & 20, teaches a capacitor switch equipped with a mechanical trip mechanism to provide a means of manually opening contacts of the switch. The mechanical trip mechanism (1900) is activated by pulling a handle (1905). When the handle (1905) is pulled, the mechanical trip mechanism (1900) opens the switch contacts fast enough to clear the power system voltage and avoid a re-strike (column 24 lines 28-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Thuries et al. with Baranowski et al., by driving the moving contacts (62 & 34) taught by Thuries et al with the trip mechanism (1900) taught by Baranowski et al, for the purpose of providing a means to open and close the contacts of Thuries et al., that prevent an arc re-striking across the contacts during an opening operation, thus causing damage to the contacts as stated by Baranowski et al. in the column mentioned above.

23. With regard to Claim 14, Thuries et al. discloses an electric power switch, comprising: an impedance (8); a power contactor including a fixed contact (21) and a moving contact (34) operable for closing an electric power circuit on a closing stroke and opening the circuit on an opening stroke; an impedance contactor (20 & 62) operable for entering the impedance into the circuit on the closing stroke and removing the impedance from the circuit on the opening stroke; the impedance contactor including a retracting contact (20) positioned adjacent to the fixed contact (21) and a traveling contact (62) that moves with the moving contact (34); the retracting contact movable between an extended position and a retracted position, and configured to

retract from the extended position to the retracted position under force applied by the traveling contact during the closing stroke; a container (1) filled with dielectric gas housing the power contactor (column 1 lines 45-50); a nozzle (33) configured to direct a stream of the dielectric gas into a contactor gap occurring across the fixed contact and the moving contact of the power contactor during the closing stroke and during the opening stroke; and a timing device (40) operable for controlling the movement of the retracting contact (20) to cause the impedance contactor to close before the power contactor on the closing stroke (column 4 lines 30-36), and to cause the impedance contactor to open before the power contactor on the opening stroke (column 5 lines 12-29).

Thuries et al. does not teach that an accelerator drives the power contactor and the impedance contactor at sufficient speed to avoid a re-strike during the opening stroke.

Baranowski et al., in figures 19 & 20, teaches a capacitor switch equipped with a mechanical trip mechanism to provide a means of manually opening contacts of the switch. The mechanical trip mechanism (1900) is activated by pulling a handle (1905). When the handle (1905) is pulled, the mechanical trip mechanism (1900) opens the switch contacts fast enough to clear the power system voltage and avoid a re-strike (column 24 lines 28-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings as described above for Claim 14.

24. With regard to Claim 15, Thuries et al in view of Baranowski et al. discloses the electric power switch of Claim 14, Thuries et al. further discloses that the power contactor comprises a penetrating contactor (21), which is described by the applicant in paragraph 0051 as a "*male probe-type contact and a moving tulip-type socket contact (34)*" and the impedance contactor comprises a butt contactor (20) which the applicant discloses in paragraph 0041 as a "*retracting (but otherwise fixed) contact that surrounds the fixed probe (21), and a traveling ring contact (62) that surrounds and moves with the moving socket contact (34)*".

25. With regard to Claim 16, Thuries et al in view of Baranowski et al. discloses the electric power switch of claim 14, Thuries et al. further discloses that the impedance contactor (20 & 64) is located inside the dielectric gas container (1).

26. With regard to Claim 17, Thuries et al in view of Baranowski et al. discloses the electric power switch of Claim 16, Thuries et al. further discloses that the switch comprising a capacitor introduced into the electric power circuit during the closing stroke and disconnected from the electric power circuit during the opening stroke. Column 1 lines 10-15, disclose that the switch is to be used for closing and re-closing a long high tension line which had remained charged by interrupting the capacitive current. The closing of the switch would introduce the capacitance into the electrical power circuit and the opening of the switch would disconnect the capacitance from the power circuit.

27. With regard to Claim 18, Thuries et al in view of Baranowski et al. discloses the electric power switch of Claim 17, Thuries et al. further discloses that the container (1) comprises an insulator extending between first (3') and second (30) ends a sufficient distance to prevent arcing from occurring between a first electric power terminal located at the first end and a second electric power terminal located at the second end when a rated voltage for the switch is applied across the power terminals.

28. With regard to Claim 20, Thuries et al. discloses the electric power switch of claim 18, Thuries et al. further discloses that the impedance (8) is housed within a conductive cap (7) comprising the first electric power terminal (3) located at the first end of the insulator (1).

29. With regard to Claim 21, Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 20. Thuries et al. further discloses that the charging impedance (8) is electrically connected to the contactors (20 & 21) within the insulator (1) with internal posts (54) (column 4 lines 43-50).

30. With regard to Claim 22, Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 21. Thuries et al. further discloses that the retracting contact (20) of the impedance contactor comprises a conductive ring positioned around the fixed contact (21) of the power contactor; and the traveling contact (62) of the impedance contactor comprises a conductive ring positioned around the moving contact of the power contactor (34).

31. With regard to Claim 23, Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 22. Thuries et al. further discloses that a spring (55) biases the retracting contact (19 & 20) toward the extended position (column 4 lines 15-19).

32. With regard to Claim 24, discloses Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 23. Thuries et al. further discloses that the puffer mechanism (40) comprises a chamber (44) integral with the retracting contact (20) and a restrictive orifice (42 & 46) venting the chamber. (column 5, lines 12-23).

33. With regard to Claim 31, Thuries et al. discloses the electric power switch of Claim 30.

Thuries et al. does not discloses the power switch further comprising an accelerator driving the power contactor and the impedance contactor at sufficient speed to avoid a re-strike during the opening stroke when the capacitor is removed from the electric circuit.

Baranowski et al., in figures 19 & 20, teaches a capacitor switch equipped with a mechanical trip mechanism to provide a means of manually opening contacts of the switch. The mechanical trip mechanism (1900) is activated by pulling a handle (1905). When the handle (1905) is pulled, the mechanical trip mechanism (1900) opens the switch contacts fast enough to clear the power system voltage and avoid a re-strike (column 24 lines 28-46).

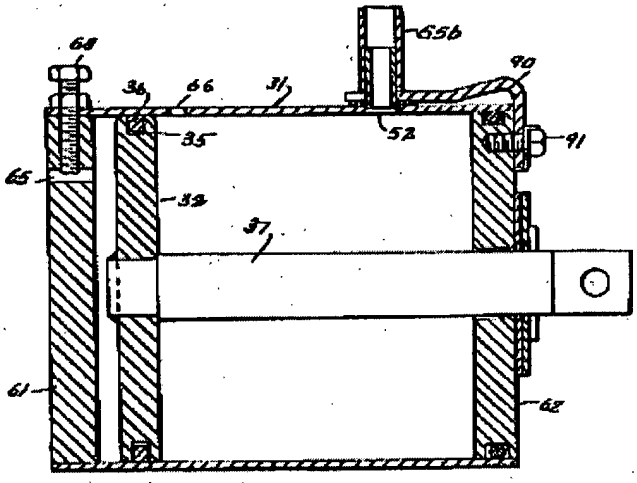
It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings as described above for Claim 14.

34. With regard to Claim 32, Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 31. Thuries et al. further discloses a nozzle (33) configured to direct a stream of the dielectric gas into a contactor gap occurring across the fixed contact (21) and the moving contact (34) of the power contactor during the closing stroke and during the opening stroke.

35. With regard to Claim 33, Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 32. Thuries et al. further discloses that the charging impedance (8) is electrically connected to the contactors (20 & 21) within the insulator (1) with internal posts (54) (column 4 lines 43-50).

36. Claims 12, 13 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thuries et al. (US 4,421,962), and further in view of Geiger (US 2,775,670).

FIG. 4.



37. With regard to Claim 12, Thuries et al. teaches the electric power switch of Claim 11. Thuries et al. further teaches that the switch comprises a flow control device wherein the insertion time can be adjusted and increased by adding washers (53) which move the drum (52) downwards and hence move the part (20) by the same distance without changing the kinematics or the movement speed of the moving contact assembly (column 5 lines 7-11), and thereby adjusting the timing of the movement of the retracting contactor during the opening stroke. Thuries et al. also teaches that gas escapes the damping device to control the damping of the insertion contact. The compressed gas escapes through the holes (42) in the diaphragm (41) which is separated from the seal (48) which is pushed back and acting as a valve and that the gas also escapes through the vents (46) (column 5 lines 3-6).

Thuries et al. does not teach that the flow control device adjusts the insertion time by affecting the size of the restrictive orifice and thereby adjusting the timing of the movement of the retracting contactor during the opening stroke.

Geiger, in Figure 4, teaches an air puffer for circuit breakers. The air puffer of Geiger provides a damping effect during the opening of circuit breaker contacts. Compresses gas escapes from the puffer through a small air bleed (65) which may adjusted in cross-sectional area by means of an adjustment screw (68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Thuries et al. with Geiger, by placing the adjustment screw (68) taught by Geiger in the path of compressed gases escaping through the holes (42) taught by Thuries et al., for the purpose of reducing the time required for a technician to adjust the flow control of the damping device (40). The use of an adjustment screw would prevent the disassembly of the insertion contactor to adjust the timing of the contactor.

38. With regard to Claim 13, Thuries et al. in view of Geiger discloses the electric power switch of Claim 12. Thuries et al. further discloses a nozzle (33) configured to direct a stream of the dielectric gas into a contactor gap occurring across the power contactor during the closing stroke and during the opening stroke.

39. With regard to Claim 29, Thuries et al. discloses the electric power switch of Claim 28. Geiger discloses an air puffer for circuit breakers. The air puffer of Geiger provides a damping effect during the opening of circuit breaker contacts. Compresses

gas escapes from the puffer through a small air bleed (65) which may adjusted in cross-sectional area by means of an adjustment screw (68). It would have been obvious to combine the teachings of Thuries et al. in view of Geiger for the reasons explained above.

40. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thuries et al. (US 4,421,962), in view of Baranowski et al. (US 6,538,347) and further in view of Hokuto et al. (US 5,734,140).

41. With regard to Claim 19, Thuries in view of Baranowski et al. teaches the electric power switch of Claim 18.

Thuries et al. view of Baranowski et al. does not teach that the container comprises a grounded conductive tank.

Hokuto et al., in Figure 1, teaches a gas insulated high voltage circuit breaker including a tulip contact assembly and insertion resistor wherein the circuit breaker is disposed in a tank (1) having a grounded potential and filled with a insulating gas (column3 lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Thuries et al. with Hokuto et al. as described above in response to Claim 3.

42. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thuries et al. (US 4,421,962), in view of Baranowski et al. (US 6,538,347) and further in view of Geiger (US 2,775,670).

43. With regard to Claim 25, Thuries et al. in view of Baranowski et al. discloses the electric power switch of Claim 24. Geiger discloses an air puffer for circuit breakers. The air puffer of Geiger provides a damping effect during the opening of circuit breaker contacts. Compresses gas escapes from the puffer through a small air bleed (65) which may adjusted in cross-sectional area by means of an adjustment screw (68). It would have been obvious to combine the teachings of Thuries et al. in view of Geiger for the reasons explained above.

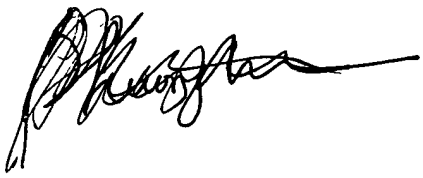
Conclusion

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bauer whose telephone number is 571-272-5986. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAB



PHUONG T. VU
PRIMARY EXAMINER